Researchers increase understanding of genetic susceptibility to psoriasis

October 18 2010

Genetic variants associated with increased susceptibility to psoriasis are reported in five papers published online this week in *Nature Genetics*. Psoriasis is a chronic and recurrent skin disease, and one of the most prevalent autoimmune diseases, with a global prevalence of 2-3%.

One of the studies was led by the National Institute for Health Research (NIHR) comprehensive Biomedical Research Centre (BRC) at Guy's and St Thomas' and King's College London and the Wellcome Trust Centre for Human Genetics at Oxford University, and involved multiple UK institutions.

The team of researchers led by Professor Richard Trembath, Head of King's College London's Division of Genetics and Molecular Medicine and Director of the NIHR BRC, in collaboration with Professor Jonathan Barker carried out a genome-wide association study of 2,622 patients with psoriasis and 5,667 healthy individuals from across the UK. The results were replicated with European studies involving more than 9,000 individuals. The study identified six regions of the genome newly associated with psoriasis, and found evidence for an interaction between two associated regions – HLA-C and ERAP1.

This is the first report of an interaction observed within a genome wide association study into psoriasis. An interaction is when the risks for the disease occur at two independent regions, but when present together lead to a substantial increase in the chance of developing the disease.

Professor Richard Trembath, at King's College London and co-lead for the study said: "We need to understand why psoriasis occurs and why individuals are more likely to develop the condition. Through our research, and other studies now coming through, the research community have identified genes that play a role in people's susceptibility to the condition.

"Our genetics studies in psoriasis are the largest worldwide and because of their strong statistical power have identified many new genetic loci linked to psoriasis. As a result we now have a much clearer view of what causes this chronic common distressing disease.

"This work provides evidence of possible targets for future treatment strategies and this information is an important basis for further studies."

Provided by King's College London